

## Climatological Data for December, 1909.

## DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

## GENERAL SUMMARY.

The climate of continental America is characterized by great extremes of temperature, not only during brief intervals of time, but also during longer periods, as revealed by the monthly means. Although November in the district was one of the warmest on record, the State average temperature in Georgia, Alabama, and Mississippi being the highest for any November since reliable records have been kept, conditions during December, 1909, passed almost to the other extreme. Very cold weather prevailed in all the South Atlantic and east Gulf States during the month of December. The State average temperature for Mississippi was lower than for any December during a period of 22 years, and in the other States in the district climatic history reveals but few colder Decembers, namely those of 1893, 1895, and 1903. In this connection the distribution of atmospheric pressure is worthy of note. The barometer was persistently low on the north Atlantic coast during the entire month, especially from the 14th to the close of the month, probably indicating an unusual development of the North Atlantic area of permanent low pressure, and explaining the almost uninterrupted drift of air from the northwest in the eastern portion of the United States. The coldest weather for the month occurred during the last decade and no portion of the district was free from frost, except the extreme southern part of Florida. The cold wave of December 30 was quite severe in central and northern Florida; many oranges were frozen, young growth of trees was cut back, but no orange trees were killed. Warning of the approach of the cold wave was issued well in advance and the information was extensively utilized. "Firing" was resorted to as a means of protection in many groves and much fruit was saved. Trucking interests suffered considerable loss.

The district came under the influence of 4 or 5 well-defined barometric depressions during the month. The disturbance that developed into a marked area of low barometer over Wisconsin on the morning of the 5th, and that which was central over Ohio on the 7th, caused a drift of air from the south, with the warmest weather for the month from the 4th to the 7th, and fairly general rains, which were heavy in northern Georgia. The subsequent fall in temperature was quite marked. At Atlanta the temperature fell from 62° at 4 a. m. on the 7th to below freezing before midnight of the same day. On the 12th the atmospheric pressure was low over southern Alabama and Mississippi and in southern Illinois, the 2 storms consolidating over Indiana by the morning of the 13th, and thence moving to Massachusetts, accompanied by general rains in the district from the 12th to 14th, which effectually broke the drought that had prevailed in many sections. Heavy rains, exceeding 2.50 inches in 24 hours, occurred at several stations in Florida and Mississippi on the 12th and in North Carolina and Virginia on the 13th. The rains of the 18th to 20th accompanied a moderate barometric depression that moved from the mouth of the Mississippi River to central Florida on the 19th.

Christmas day throughout the district was cold and blustery in consequence of the sudden development of a severe storm in the Ohio Valley on the morning of the 25th. The storm increased in force as it moved eastward to the north Atlantic coast, the pressure falling to 28.57 inches at Atlantic City on the early morning of the 26th. Rain occurred throughout the district and considerable snow in the western portions of Virginia and North Carolina and in northern Georgia, Alabama, and Mississippi. High west to northwest winds prevailed on Christmas day and the following Sunday. The lowest atmospheric pressure was

recorded on the 25th at most stations, the minimum being 29.26 inches at Norfolk, Va. The sudden southward movement of an area of high atmospheric pressure from Nebraska to southern Mississippi brought the highest pressure and the lowest temperatures in the district on the morning of the 30th. The maximum pressure was 30.50 inches at Pensacola, Fla. The temperature on the morning of the 30th ranged from 3° in Virginia to 16° in Florida.

The amount of sunshine was abundant throughout the district. The number of rainy days was above normal only in Alabama and Mississippi.

## TEMPERATURE.

The temperature was decidedly below the normal throughout the entire district during December. The deficiency was least in southern Florida (from 2° to 3°) and gradually increased toward the north and west, a large number of stations near the border of adjoining districts having deficiencies of over 6°, and a few places in northern Georgia and Mississippi over 8°. In Georgia and North Carolina only December, 1903, was colder than the current month; in South Carolina, December in 1893; in Florida only December in 1895 and 1903, while in Mississippi the month was the coldest on record. During the first week the temperature was seasonable or somewhat above normal everywhere, the maximum temperature, which generally occurred on the 1st, 5th, or 7th, slightly exceeding 80° in all States except North Carolina and Virginia, where the highest temperatures were, respectively, 77° and 69°. In Florida a moderately warm period occurred toward the end of the second decade, giving a maximum temperature for the district of 88° on the 20th at Arcadia, Fla.

The last half of the month was characterized by continuously cold weather over most of the district, with temperatures almost as low as ever experienced in the southeastern United States. The lowest temperatures occurred uniformly on the 30th, when the minimum registered was 3° in Virginia, 4° in North Carolina, 5° in Georgia, 6° in Alabama, and 9° in Mississippi. Over most of the district the monthly mean temperatures ranged between 35° and 50°; in Virginia, however, a monthly mean of 27.2° was recorded at Hot Springs; in Florida the mean was between 50° and 65° at many stations. The highest monthly mean temperature was 69.2° at Key West, Fla. At Miami, Fla., the December mean was 67.0°.

Intensely cold weather is so detrimental to the citrus fruit interests in Florida that a comparison of the progress southward of the cold wave of December 30, 1909, with the previous severest cold spells during December will be of general interest. The previous greatest degrees of cold in Florida during December occurred in the years 1880, 1894, and 1901. The following table gives the minimum temperatures at all regular stations in Florida for 4 years:

Station.	1880.	1894.	1901.	1909.
	°F.	°F.	°F.	°F.
Cedar Keys.....	22	14	20	19
Jacksonville.....	19	14	20	19
Jupiter.....		24	38	30
Key West.....	50	44	50	48
Pensacola.....	17	14	17	21
Tampa.....		19	24	26

The cold weather of December, 1894, was the severest for the month of which there is authentic record.

## PRECIPITATION.

The rainfall was again below normal in all the States bordering the Atlantic Ocean, with the greatest deficiencies in North

Carolina and the least in Florida; on the other hand the State averages for Alabama and Mississippi show a moderate excess in those States. The total rainfall for the month was under 2.00 inches at many stations in Florida and eastern North Carolina and at a few points in South Carolina. In the region of heaviest rainfall, comprising western Florida, southern and southwestern Alabama, southeastern Mississippi, and the northern portion of Georgia the monthly totals of precipitation ranged from 6.00 to slightly over 10.00 inches. The smallest monthly amount was 0.14 inch at Hilliard, Fla., and the maximum was 10.94 inches at Spring Hill, Ala.

Over most of the district the rains fell during brief fairly distinct periods, namely, 2d to 3d, 6th to 8th, 12th to 14th, 18th to 20th, and 24th to 26th. The most general and copious rains fell on the 12th to 14th, and while the amounts were excessive at some stations the ground was so dry that a large percentage of the rainfall was absorbed. The number of days with rain averaged about 6 in the States bordering the Atlantic and 10 in Alabama and Mississippi. The maximum 24-hourly rainfall in connection with the storm of December 6-7 was 3.45 inches at Diamond, Ga.; during the storm of 12-13th heavy rains occurred at 3 stations in Virginia, 2 in North Carolina, 2 in Florida, and 4 in Mississippi. The maximum fall was 4.83 inches on the 11th and 12th at Molino, Fla.

In the northern portions of Mississippi, Alabama, and Georgia and in western North Carolina and Virginia considerable snow fell on the 18th to 19th and 24th to 25th. The greatest depth in Virginia was 7.0 inches at Charlottesville, all of which fell on the 25th; in North Carolina the largest monthly total was 4.6 inches at Statesville, in Georgia 7.0 inches at Diamond, in Mississippi 6.2 inches at Booneville.

#### RIVER CONDITIONS.

When the rivers are low the stream flow is maintained chiefly by the underground waters, but rivers lag in reflecting either the abundance or scarcity of the supply. The average stages in all the rivers in the district were very low in December. In some cases the mean was far below the normal stage for December, as for example at Cheraw, on the Pedee River, in South Carolina, where the mean for 17 years is 5.7 feet, but the December average was only 3.2 feet. In a few cases the lowest river stages surpassed all previous records.

#### MISCELLANEOUS PHENOMENA.

The number of bright days was quite large in all sections; the average number of clear days in Virginia, North Carolina, and Florida was 18 and in the rest of the district 14 to 16. The wind movement was large and seven regular stations reported maximum wind velocities exceeding 40 miles an hour. At Hatteras, N. C., a maximum velocity of 58 miles from the west occurred on the 25th; at Atlanta, 50 miles from the northwest on the 26th; and at Pensacola, 52 miles from the southeast on the 12th. The average monthly movement exceeded 10 miles an hour at Atlanta, Hatteras, Pensacola, and Jupiter. The prevailing winds were from the northwest.

#### NEWS ITEMS.

The draining of the Everglades by the State of Florida was prosecuted vigorously during the month. The purchase of two additional dredges is contemplated in order to advance the work more rapidly. With the complete equipment 80,000 cubic yards will be cut per month. It is estimated that ultimately 5,000,000 acres will be made arable.

In a communication to the official in charge of the local office of the Weather Bureau at Jacksonville, Mr. E. H. Sellards, State Geologist of Florida, gives an interesting account of his investigation of the temporary or disappearing lakes of Florida, from which the following extract is made:

Certain lakes in the State, notably Alachua Lake in Alachua County, Miccosukee Lake in Jefferson County, Lafayette, Jackson, and Iamonia lakes in Leon County, occasionally become dry. It is commonly believed that these lakes disappear and reappear without any evident cause and with no relation to the rainfall of the section. From the records of rainfall at the Weather Bureau station at Jacksonville, Fla., information was obtained of much importance bearing on the history of these lakes as well as on the underground water supply in general. The evidence is conclusive that the lakes go dry when the rainfall has been below normal for a few successive years.

That the lakes go dry under these conditions may seem quite natural; however, in the case of the temporary lakes in Florida the water finds its exit by subterranean drainage. It is popularly supposed that the escape depends simply upon the lake finding connection with an assumed underground stream. Upon this supposition extensive plans of drainage have been based and attempted. Little is at present known in regard to the formation and history of these lakes and to intelligently discuss and present the subject it is necessary to have facts and not inferences. The whole problem of underground water supply is important in this State in connection with irrigation and general purposes and the records of the Weather Bureau are of great value in connection with the subject.

TABLE 1.—Climatological data for December, 1909. District No. 2, South Atlantic and east Gulf States.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Total snowfall unmeted.	Greatest in 24 hours.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.									
<b>Virginia.</b>																				
Arvona.	Buckingham.	350	5	32.6	- 4.5	60	4	3	30	30	3.63	+ 0.49	2.48	7.5	5	22	4	5	n.	
Ashland.	Hanover.	221	18								2.92		2.12	2.0	3				E. L. C. Scott.	
Buchanan.	Botetourt.	820	5											5	14	12	5		D. D. Boone.	
Calaville.	Brunswick.	250	15	37.0	- 3.8	62	5	12	31	33	1.07	- 1.69	0.82	0.8	4	18	5	3	F. M. Gage.	
Cape Henry.	Princess Ann.	20	35	38.7	- 5.0	64	7	18	30	23	1.78	- 1.67	1.11	0.8	4	18	5	3	U. S. Weather Bureau.	
Charotesville.	Albermarle.	800	20	31.9	- 6.2	64	4	9	30	24	3.52	- 0.30	2.51	7.2	4	7	8	3	Leander McCormick.	
Clarksville.	Mecklenburg.	15									3.35	- 0.37	2.20	0.5	5			J. Henry Ligon.		
Columbus.	Fluvanna.	246	11	32.8	- 4.6	64	4	7	30	37	2.95	- 0.89	2.30	5.0	3	20	7	4	Agent, C. & O. R. R.	
Danville.	Pittsylvania.	413	9								2.29		0.89	1.4	9	18	5	8	C. G. Watkins.	
Diamond Springs.	Princess Anne.	30		36.8		64	4	12	31	35	2.67		2.00	0.5	2			Virginia Experiment Sta.		
Dinwiddie.	Dinwiddie.	267	5															W. N. Colson.		
Hampton.	Elizabeth City.	5	26	38.0	- 4.1	61	13	12	30	23	1.48	- 1.52	1.00	0.2	4	23	3	5	Hampton Institute.	
Hot Springs.	Bath.	2,195	17	27.2	- 5.5	58	5	3	31	30	2.45	- 0.55	0.98	4.0	6	14	10	7	James P. Scott.	
Ivor.	Southampton.	87		35.2		69	4	9	30	31	0.41	0.50	0.25					Agent N. & W. Ry.		
Lexington.	Rockbridge.	1,060	32	30.5	- 5.1	65	5	8	30	33	2.78	- 0.08	1.73	4.5	3	25	1	5	Virginia Mill. Institute.	
Lynchburg.	Campbell.	685	38	34.2	- 4.9	66	5	12	30	32	2.79	- 0.44	1.83	5.0	5	11	13	7	U. S. Weather Bureau.	
New Castle.	Craig.	1,300																Miss J. L. Martin.		
Newport News.	Warwick.	55	6	38.2		64	6	13	30	23	1.12			1.32	0.8	5	19	5	7	Ernest W. Sniffen.
Norfolk.	Norfolk.	91	39	38.8	- 4.0	64	13	13	30	23	1.01	- 1.48	1.46	0.3	4	16	8	7	U. S. Weather Bureau.	
Petersburg.	Dinwiddie.	60	22	37.2	- 4.0	66	5	11	30	33	2.56	- 0.32	1.85	0.2	4				Central State Hospital.	
Randolph.	Charlotte.	334	5															W. B. Spencer.		
Richmond.	Henrico.	144	30	35.9	- 5.1	64	4	10	30	27	3.39	+ 0.29	2.52	3.3	6	9	16	6	U. S. Weather Bureau.	
Rocky Mount.	Franklin.	1,150	15	33.6	- 6.4	68	5	8	30	37	3.30	- 0.18	1.88	2.0	3			G. W. B. Hale.		
Sabot.	Goochland.	125																W. A. Jacobs.		
Saxe.	Charlotte.	350	6	34.8		69	5	10	21	43	2.64		2.02	1.0	3	22	1	8	State Experim. Farm.	
Spottsville (near).	Surry.	15	21	35.7	- 5.0	67	5	7	30	37	2.52	- 0.67	2.09	0.4	5	21	3	8	B. W. Jones.	
Williamsburg.	James City.	70	18	36.4	- 5.1	63	5	13	30	34	2.63	- 1.14	0.98	2.5	6	20	5	6	Eastern State Hospital.	
<b>North Carolina.</b>																				
Beaufort.	Carteret.	10	7	44.1	- 4.5	67	6	17	30	23	3.83	- 0.83	1.03	T.	9	21	2	8	H. D. Allen.	
Belhaven.	Beaufort.	4		40.0		72	7	14	30	35	1.47		0.86	T.	3	22	5	4	William S. Hopkins.	
Brewers.	Wilkes.	1,950	12	36.4	- 2.6	75	6	30	43	34	3.47	- 0.92	1.65	2.0	6	17	6	8	W. L. Brewer.	
Caroileen.	Rutherford.	806	9	37.8		69	5	15	30	36	4.26		2.06	T.	4	18	3	5	S. B. Tanner.	
Chalybeate Springs.	Harnett.	500	3	38.2		73	5	18	31	43	2.18		1.64	T.	4	19	3	9	J. A. Smith.	
Chapel Hill.	Orange.	500	51	39.5	- 2.7	72	5	10	30	36	2.63	- 1.13	1.99	4	18	3	5	Prof. A. H. Patterson.		
Charlotte.	Mecklenberg.	808	33	39.2	- 3.7	69	4	12	30	27	2.51	- 1.35	1.59	0.2	7	12	9	10	U. S. Weather Bureau.	
Chimney Rock.	Rutherford.	1,150		30.0		69	4	10	30	35	5.04		2.67	4.1	4	21	6	4	Dr. L. B. Merse.	
Clinton.	Sampson.	156	2	41.6		75	7	13	30	35	1.04		0.75	T.	4	22	3	6	Thomas Boyette.	
Eagletown.	Northampton.	66	35	37.4		67	7	13	31	35	3.08		2.56	1.3	4	20	7	4	J. T. Elliott.	
Edenton.	Chowan.	30	15	39.0	- 4.0	64	5	13	30	40	1.81	- 1.75	0.91	T.	2	20	5	6	E. R. Conger.	
Fayetteville.	Cumberland.	170	22	41.3	- 2.4	74	5	14	30	42	1.85	- 3.00	1.00	T.	3				Frank Glover.	
Goldsboro.	Wayne.	102	39	40.0	- 3.8	70	6	12	30	41	1.90	- 1.58	0.95	T.	3				Mrs. N. B. Taylor.	
Graham.	Alamance.	656	7								3.01		1.39	1.6	6				Dr. R. W. Goley.	
Greensboro.	Guildford.	843	23	36.9	- 4.0	72	5	11	30	32	2.35	- 1.06	1.00	T.	6				A. R. Horry.	
Greenville.	Pitt.	75	16								1.72	- 1.76	0.96	T.	4				C. V. York.	
Hatteras.	Dare.	11	35	44.0	- 4.8	69	13	29	30	24	2.15	- 2.96	1.55	T.	7	20	6	5	U. S. Weather Bureau.	
Henderson.	Vance.	490	16	37.3	- 3.4	65	4	12	30	27	1.65	- 2.26	1.01	1.3	4	22	5	4	Enoch Powell.	
Kinston.	Lenoir.	46																Rev. J. R. Rountree.		
Lenoir.	Caldwell.	1,186	36	35.0	- 3.6	71	4	4	30	44	3.59	+ 0.03	1.60	1.0	4	21	5	5	G. M. Goforth.	
Lexington.	Davidson.	810	3	35.9		70	4	9	30	40	2.39		1.47	T.	4	19	3	4	H. R. Berrill.	
Lincolnton.	Lincoln.	904	4	37.8		69	4	7	30	39	1.42		1.30	T.	3	21	1	9	L. B. Thompson.	
Louisburg.	Franklin.	375	18	37.8	- 3.1	67	7	14	30	36	1.57	- 1.83	1.08	0.2	4	22	3	6	T. B. Wilder.	
Lumberton.	Robeson.	102	26	40.6	- 3.5	74	5	15	30	40	2.38	- 0.99	0.93	T.	2	19	4	8	B. M. Davis.	
Manteo.	Dare.	12	4	40.6		66	8	18	30	28	1.04		0.58	T.	2	17	3	7	U. S. Weather Bureau.	
Marion.	McDowell.	1,425	17	37.2	- 3.2	76	4	5	30	43	4.38	- 0.22	2.13	1.0	5	15	4	7	Thomas McGuire.	
Moncure.	Chatham.	145	38	34.4	- 3.4	73	5	10	31	48	1.75	- 1.71	1.17	6	13	5	8	B. J. Utley.		
Monroe.	Union.	586	15	30.0	- 3.6	72	5	8	30	44	2.94	- 0.53	2.00	T.	5	18	4	9	T. A. Ashcraft.	
Morganton.	Burke.	1,135	23	36.8	- 4.7	69	4	9	30	39	4.27	+ 0.38	2.00	T.	4	20	2	9	H. D. Judd.	
Mt. Airy.	Surry.	1,043	21	35.5	- 3.2	72	4	7	30	46	3.53	- 0.04	1.72	3.0	5	20	4	7	Prof. A. H. Merritt.	
Mt. Holly.	Gaston.	616	12								3.34	- 0.85	1.34	T.	7				John W. Holland.	
Nashville.	Nash.	190	5	37.8		77	7	12	30	38	2.26		1.64	T.	4	15	9	7	J. B. Bodie.	
Newbern.	Craven.	12	27	40.8	- 5.9	73	7	12	30	35	2.03	- 1.66	1.08	T.	5				James B. Hill.	
Pinehurst.	Moore.	650	5	41.0		73	11	39	30	37	2.00		1.47	T.	3	22	2	7	General Office..	
Pittsboro.	Chatham.	480	18	37.6	- 3.9	69	5	11	30	41	2.51	- 0.25	1.81	T.	2	21	1	9	J. E. Morgan.	
Raleigh.	Wake.	390	38	39.4	- 3.3	69	5	12	30	27	1.89	- 1.28	1.30	T.	3	16	8	7	U. S. Weather Bureau.	
Ramsour.	Randolph.	442	4	36.4		70	5	9	31	41	2.95		2.00	T.	2	17	8	6	P. P. Turner.	
Randleman.	Randolph.	810	4								2.35		1.04	T.	6				John R. Walton.	
Reidsville.	Rockingham.	828	10	37.8	- 0.8	71	5	10	30	40	2.55	- 1.33	1.91	1.5	8	18	3	10	E. M. Redd.	
Rockingham.	Richmond.	210	14	39.8	- 4.2	71	5	11	30	40					6				H. S. Ledbetter.	
Roxboro.	Person.	600	11															T. C. Bradsher.		
Salem.	Forsythe.	1,000	14	35.4	- 3.5	69	4	10	30	40	2.06	- 1.92	1.34	3				Rev. H. E. Rondthaler.		
Salisbury.	Rowan.	760	25	37.8	- 4.6	66	6	9	30	31	2.48	- 1.27	1.04	6	21	1	9	Mrs. Thelma Wilkinson.		
Saxon.	Stokes.	900	17	34.2	- 4.8	72	5	10	30	40	2.42	- 1.42	1.52	2.0	4	17	7		R. P. McAnnally.	
Scotian Neck.	Hallifax.	80			</td															

TABLE 1.—Climatological data for December, 1909. District No. 2—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.			Precipitation, in inches.			Greatest daily range.	Departure from the normal.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall.	Number of rainy days, 0.1 inch or more.	Number of partly clear days.	Number of cloudy days.	Prevailing wind direction.	Observers.	
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.												
<b>South Carolina—Cont'd.</b>																					
Calhoun Falls.	Abbeville.	508	16	42.0	70	5†	12	30	33	2.94	-1.06	0.72	0.0	9	22	0	9	nw.	P. J. Pfiefer.		
Camden(1).	Kershaw.	3	43	42.0	70	5†	12	30	33	2.57	-1.40	0.5	0.0	5	18	4	9	nw.	J. B. Mickle.		
Camden(2).	Kershaw.	222	43	42.0	70	5†	12	30	33	2.28	-1.05	0.84	0.0	3	21	1	9	nw.	J. C. Brown.		
Catawba.	York.	583	4	42.0	70	5†	12	30	33	3.00	-1.10	0.6	0.0	7	14	6	11	w.	Jas. C. Faris.		
Chappells.	Newberry.	402	4	42.0	70	5†	12	30	33	0.88	-0.38	0.0	0.0	5	12	11	8	w.	M. C. Rivers.		
Charleston.	Charleston.	48	39	47.2	-4.1	68	13	18	30	25	1.75	-1.40	1.03	0.0	8	6	8	w.	U. S. Weather Bureau.		
Charleston.	Chesterfield.	144	21	41.7	-2.4	78	6	13	30	36	2.26	-0.91	0.64	0.0	8	14	10	7	w.	W. R. Godfrey.	
Chareraw(1).	Chesterfield.	144	16	42.0	70	5†	12	30	33	2.26	-0.91	0.64	0.0	8	14	10	7	w.	Jno H. Powe.		
Clarks Hill.	Edgefield.	456	7	42.0	70	5†	12	30	33	2.26	-0.91	0.64	0.0	8	14	10	7	w.	Wm. S. Middleton.		
Clemson College.	Oconee.	850	18	39.3	-2.9	77	8	11	30	45	4.90	+0.11	2.06	0.0	6	16	6	9	sw.	P. J. Hook.	
Columbia.	Richland.	351	22	42.6	-4.6	72	5	13	30	33	2.06	-0.84	1.05	0.0	9	19	11	10	w.	U. S. Weather Bureau.	
Conway.	Horry.	25	17	43.5	-4.6	74	5†	15	31	37	2.82	-0.50	1.08	0.0	0	9	21	0	10	sw.	P. C. Quattlebaum.
Darlington.	Darlington.	175	14	42.0	70	5†	12	30	33	1.84	-1.43	0.52	0.0	8	8	8	7	w.	D. C. McCall.		
Dillon.	Marion.	100	5	42.0	70	5†	12	30	33	1.06	-1.96	0.65	0.0	5	16	7	8	w.	A. E. Rowell.		
Effingham.	Florence.	106	17	42.0	70	5†	12	30	33	4.50	+1.19	0.95	0.0	5	21	0	10	nw.	H. B. McCall.		
Ferguson.	Berkeley.	51	2	43.4	-0.6	74	5	14	30	32	2.60	-0.90	0.0	0.0	4	21	2	8	nw.	D. B. Gilliland, jr.	
Florence.	Florence.	136	21	42.0	70	5†	12	30	33	2.78	-0.33	0.92	0.0	5	21	2	8	sw.	H. K. Gilbert.		
Georgetown.	Georgetown.	12	16	46.7	-2.5	73	7	18	30	37	1.86	-1.95	0.45	0.0	5	17	8	8	nw.	Wm. Alden James.	
Greenville.	Greenville.	989	17	40.5	-0.1	71	3	9	30	50	4.60	+0.18	1.80	2.0	8	18	0	13	ne.	Mrs. S. A. Crittenden.	
Greenwood.	Greenwood.	671	21	39.5	-3.0	66	5	11	30	36	3.35	-1.13	1.76	0.0	6	17	0	14	w.	M. M. Calhoun.	
Heath Springs.	Lancaster.	568	8	41.1	70	6	10	30	34	3.11	-1.76	0.5	0.0	5	16	7	8	w.	J. A. Weazner.		
Jacksonboro.	Colleton.	13	1	45.1	70	5†	12	30	33	2.03	-1.17	0.0	0.0	5	21	3	7	w.	W. E. Haskell, jr.		
Kingtree(1).	Williamsburg.	54	15	45.2	-2.2	78	6	15	31	34	2.20	-1.06	0.85	0.0	6	18	2	11	n.	J. A. Scott.	
Kingtree(2).	Williamsburg.	54	21	42.0	70	5†	12	30	33	2.03	-1.06	0.85	0.0	6	18	2	11	n.	A. O. Matthews.		
Liberty.	Pelzer.	900	15	39.6	-3.1	70	4	7	30	37	5.07	+0.17	2.10	2.0	7	17	7	7	sw.	Jno T. Boggs.	
Little Mountain.	Newberry.	711	16	42.2	-3.8	71	5	11	30	31	2.39	-1.05	0.94	0.0	8	18	7	6	w.	Dr. J. M. Sease.	
Newberry.	Pelzer.	502	5	41.2	-3.9	72	5	10	30	34	2.53	-1.15	0.78	0.0	9	15	6	10	w.	W. G. Peterson.	
Pinopolis.	Berkeley.	54	18	42.0	70	5†	12	30	33	3.44	-1.22	1.78	0.40	0.0	6	25	0	6	sw.	John M. Ward.	
St. George.	Dorchester.	109	21	44.4	-3.3	73	6	14	30	30	2.20	-1.00	0.80	0.0	7	20	0	11	sw.	G. T. Lewis.	
St. Matthews.	Calhoun.	209	21	42.6	-3.8	72	5†	12	30	30	2.83	-0.54	1.34	0.0	7	20	0	11	sw.	J. S. Wannamaker.	
Saluda.	Saluda.	530	7	42.1 <sup>a</sup>	70	5†	12	30	49 <sup>a</sup>	3.01 <sup>a</sup>	-1.11 <sup>a</sup>	0.0	5 <sup>a</sup>	17 <sup>a</sup>	5 <sup>a</sup>	5 <sup>a</sup>	sw.	Alvin Etheridge.			
Santus.	Union.	512	15	39.6	-3.6	69	5	10	30	33	2.79	-1.31	1.41	0.0	7	14	6	11	w.	E. W. Jeter.	
Smith Mills.	Williamsburg.	62	14	42.0	70	5†	12	30	33	4.13	-0.23	1.18	0.0	8	22	0	9	n.	W. G. Walker.		
Society Hill.	Darlington.	192	18	40.5	-5.1	70	7	14	29	34	2.18	-1.03	0.78	0.0	6	19	4	8	sw.	J. J. Lucas.	
Spartanburg.	Spartanburg.	875	18	38.5	-3.7	71	4	11	30	36	3.23	-0.97	1.59	0.0	8	18	0	13	sw.	F. P. Robinson.	
Summerville.	Dorchester.	75	12	45.3	-2.6	76	3	15	30	36	2.71	-1.04	0.92	0.0	7	10	18	3	sw.	Miss E. H. Gadsden.	
Trenton.	Edgefield.	620	16	42.6	-4.5	73	6	9	30	34	2.66	-1.47	0.90	0.0	7	16	11	4	w.	C. A. Long.	
Trial.	Berkeley.	84	23	45.3	-2.9	78	3	15	31	30	2.20	-0.80	0.75	0.0	9	11	14	6	nw.	Etsell Gaillard	
Walhalla.	Oconee.	1,061	18	39.2	-4.1	69	4	8	30	35	4.86	+0.47	1.80	0.0	7	13	7	11	sw.	N. L. Fant.	
Walterboro.	Colleton.	69	5	46.3 <sup>b</sup>	70	5†	12	30	33	2.82	-0.95	1.15	0.0	6	9	8	4	sw.	J. A. Westerberg.		
Winthrop College.	Fairfield.	545	20	42.0	70	5†	12	30	33	2.85	-0.62	1.62	0.0	6	18	6	7	sw.	John W. Seiger.		
Yemassee.	York.	690	10	40.3	-2.9	69	4†	10	30	32	2.60	-0.35	0.86	0.0	10	23	0	8	sw.	E. R. Rivers.	
Georgia.	Hampton.	23	14	44.9	-2.9	74	5	15	30	35	2.67	-0.35	0.86	0.0	10	23	0	8	sw.	J. G. Hutson.	
Abbeville.	Wilcox.	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	n.	W. H. Calhoun.	
Adairsville.	Bartow.	772	17	36.6 <sup>b</sup>	-5.6	66	3†	10	30	32	3.61	-0.90	0.0	0.0	8	12	9	10	sw.	Dr. J. P. Bowdoin.	
Albany.	Dougherty.	230	24	47.6	-4.0	80	5†	14	30	37	3.67	-0.19	0.97	0.0	12	13	9	9	nw.	Geo. C. Brosnan.	
Alapaha.	Berrien.	203	20	49.1	-1.9	70	5	15	30	40	2.41	-1.49	1.02	0.0	5	17	12	13	w.	Miss Gladys Lucas.	
Americus.	Sumter.	363	26	42.0	70	5†	12	30	33	3.61	-0.23	1.25	0.0	8	13	5	13	sw.	L. A. Smith.		
Athens.	Clarke.	694	32	38.1	-5.7	66	4	12	30	27	3.42	-1.90	1.25	0.0	8	13	5	13	w.	C. D. Cox.	
Atlanta.	Fulton.	1,218	44	38.2	-5.9	71	4	10	30	30	3.51	-0.98	2.52	0.0	8	13	5	13	w.	U. S. Weather Bureau.	
Augusta.	Richmond.	180	43	43.0	-4.5	71	5	13	30	31	1.98	-1.51	0.72	0.0	10	13	9	9	w.	U. S. Weather Bureau.	
Bainbridge.	Decatur.	119	17	48.2	-2.6	78	5	18	30	38	6.06	+1.82	1.31	0.0	12	13	9	9	w.	Mrs. C. O. Wimberly.	
Barneaville.	Pike.	875	1	41.8	70	5†	12	30	32	3.02	-0.95	0.0	0.0	10	11	7	11	w.	Prof. J. R. Leavell.		
Blakely.	Early.	300	18	45.8	-5.1	75	4	11	30	39	3.71	-0.28	1.18	0.0	11	12	14	5	n.	Ralph M. Hobbs.	
Brunswick.	Glynn.	14	11	42.0	70	5†	12	30	33	2.85	-0.42	1.00	0.0	10	12	8	8	w.	J. B. High.		
Butler.	Taylor.	650	7	42.0	70	5†	12	30	33	2.85	-0.42	1.02	0.0	6	12	7	7	w.	Mrs. Mamie F. Wallace.		
Canak.	Warren.	613	16	42.6	-3.1	73	4	10	30	40	2.35	-2.00	0.80	0.0	4	16	7	7	w.	J. A. Chapman.	
Canton.	Cherokee.	894	16	42.0	70	5†	12	30	33	2.48	-0.87	0.0	0.0	8	12	5	7	w.	J. M. McAfee.		
Carleton.	Madison.	557	10	42.0	70	5†	12	30	33	2.48	-0.87	0.0	0.0	8	12	5	7	w.	M. C. Power.		
Carrollton.	Carroll.	12	12	42.0	70	5†	12	30	33	2.48	-0.87	0.0	0.0	8	12	5	7	w.	Prof. J. H. Melson.		
Clayton.	Rabun.	2,100	16	37.4	-4.3	71	4	6	30	36	7.54	+0.98	3.10	3.0	7	19	5	7	w.	A. J. Duncan.	
Columbus.	Muscogee.	363	22	42.0	70	5†	12	30	33	2.75	-2.30	0.86	0.0	7	13	5	7	sw.	Rufus Cruse.		
Covington.	Newton.	800	16	46.8	70	5†	10	30	35	3.64	-0.86	1.23	0.0	7	13	5	7	nw.	Prof. B. McMichaels.		
Cuthbert.	Randolph.	446	10	46.8	70	5†	10	30	35	4.74	-0.86	2.10	0.0	6	10	5	7	sw.	Prof. B. P. Gaillard		
Dahlonega.	Lumpkin.	1,519	17	37.2																	

TABLE 1.—Climatological data for December, 1909. District No. 9—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, 10. inch or more.	Number of partly cloudy days.	Number of cloudy days.			
<b>Georgia—Cont'd.</b>																				
Milledgeville.....	Baldwin.....	276	21	42.0 <sup>a</sup>	- 4.5	70	5	14	30	35	2.78	- 1.34	0.65	0.0	8	14	4	13	nw.	
Millen.....	Jenkins.....	158	22	44.8	- 3.9	76	3	12	30	38	3.00	- 0.35	1.10	0.0	6	11	7	6	nw.	
Montezuma.....	Macon.....	292	4	44.3	.....	.....	.....	.....	.....	.....	2.54	.....	0.86	0.0	7	.....	.....	.....	.....	
Monticello.....	Jasper.....	800	13	41.6	- 6.2	73	4	11	30	39	3.06	- 0.94	1.09	0.0	6	10	10	1	0	
Morgan.....	Cabellou.....	337	17	45.1	- 4.2	74	5	15	30	34	2.07	- 1.09	0.41	0.0	10	30	1	0	.....	
Newnan.....	Coweta.....	959	21	40.2	- 2.7	73	4	9	30	38	3.38	- 1.57	1.52	0.0	5	.....	.....	.....	.....	
Oakdale.....	Fulton.....	810	9	44.7	.....	.....	.....	.....	.....	.....	4.35	.....	1.43	0.0	4	.....	.....	.....	.....	
Point Peter.....	Oglethorpe.....	1,000	20	40.5	- 3.4	68	4	11	30	29	3.22	- 0.92	0.90	0.0	8	15	8	8	w.	
Poulson.....	Worth.....	365	18	47.2	- 3.0	81	5	13	30	41	3.52	- 0.06	0.83	0.0	10	13	8	10	.....	
Putnam.....	Marion.....	10	10	44.4 <sup>a</sup>	- 3.7	79	3	10	30	41	3.33	- 1.68	1.20	0.0	6	.....	.....	.....	.....	
Quitman.....	Brooks.....	173	25	49.4	- 3.1	81	1	17	30	41	3.45	- 1.03	1.30	0.0	6	.....	.....	.....	.....	
Ramsey.....	Murray.....	1,263	16	39.2	- 5.1	68	4	10	30	29	3.78	- 1.09	1.70	1.0	7	14	6	11	n.	
Resaca.....	Gordon.....	657	16	44.3	.....	.....	.....	.....	.....	.....	4.95	+ 0.01	2.40	2.0	5	.....	.....	.....	.....	
Rome.....	Floyd.....	576	54	36.4	- 8.0	68	3	9	30	32	5.16	+ 0.59	2.10	3.0	8	.....	.....	.....	.....	
St. George.....	Charlton.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
St. Mary's.....	Camden.....	20	18	51.0	- 2.0	79	5	16	30	43	2.87	- 0.34	0.84	0.0	8	17	7	7	nw.	
Savannah.....	Chatham.....	65	59	47.6	- 3.7	72	5	17	30	27	1.82	- 1.28	0.94	0.0	8	16	6	9	w.	
Statesboro.....	Ruflock.....	253	9	46.4	.....	75	6	14	30	34	2.89	.....	1.10	0.0	7	11	17	3	.....	
Talbotton.....	Talbot.....	750	16	42.8 <sup>b</sup>	- 4.3	70	4	10	30	38	3.43	- 1.26	0.80	0.0	8	17	5	9	nw.	
Tallapoosa.....	Haralson.....	1,150	11	38.4	- 4.9	77	5	8	30	40	3.25	- 0.64	1.75	T.	2	.....	.....	.....	.....	
Thomasville.....	Thomas.....	273	26	47.5	- 5.5	77	5	17	30	37	4.19	+ 0.50	1.23	0.0	11	18	5	8	nw.	
Toccoa.....	Stephens.....	1,050	24	36.4	- 6.6	68	4	5	30	41	6.09	+ 0.89	2.01	T.	6	.....	.....	.....	w.	
Valdosta.....	Lowndes.....	219	4	48.2	.....	80	5	16	30	41	2.99	.....	0.92	0.0	6	24	4	3	sw.	
Valona.....	McIntosh.....	10	9	47.0	.....	77	5	15	30	41	2.32	.....	1.40	0.0	4	.....	.....	.....	ne.	
Washington.....	Wilkes.....	630	22	40.4	- 4.4	71	5	10	30	37	3.73	- 0.19	1.05	0.0	8	.....	.....	.....	ne.	
Waycross.....	Ware.....	131	20	47.5	- 3.9	78	5	16	30	38	2.39	- 0.32	0.91	0.0	10	.....	.....	.....	ne.	
Waynesboro.....	Burke.....	86	18	46.1	- 1.5	73	4	13	30	41	2.35	- 0.57	1.28	0.0	7	.....	.....	.....	nw.	
West Point.....	Troup.....	620	21	40.2	- 5.9	68	4	11	30	34	4.26	- 1.23	1.94	0.0	9	.....	.....	.....	nw.	
Woodbury.....	Meriwether.....	641	9	40.8	.....	69	3	10	30	44	2.98	.....	0.81	0.0	8	11	4	16	w.	
<b>Alabama</b>	<b>Houston.....</b>	<b>105</b>	<b>4</b>	<b>39.0</b>	<b>- 5.2</b>	<b>73</b>	<b>4</b>	<b>9</b>	<b>30</b>	<b>33</b>	<b>4.62</b>	<b>+ 1.02</b>	<b>1.48</b>	<b>0.0</b>	<b>11</b>	<b>18</b>	<b>0</b>	<b>13</b>	<b>n.</b>	
Anniston.....	Calhoun.....	741	18	39.0	.....	73	4	9	30	33	5.58	+ 1.02	2.26	0.3	12	11	7	6	11	.....
Ashville.....	St. Clair.....	685	16	38.5	- 5.0	68	4	10	30	31	5.25	+ 0.11	1.42	3.0	9	14	6	11	nw.	
Auburn.....	Lee.....	732	20	42.2 <sup>a</sup>	- 5.1	72	4	10	30	33	5.03	- 0.11	2.22	0.0	9	13	3	15	n.	
Benton.....	Lowndes.....	149	8	.....	.....	.....	.....	.....	.....	.....	6.89	.....	0.0	0	16	15	5	10	nw.	
Bermuda.....	Conecuh.....	22	44.4	- 5.3	75	3	14	30	39	9.24	+ 4.71	3.79	0.0	8	15	3	13	n.		
Birmingham.....	Jefferson.....	700	21	39.9	- 7.4	71	4	12	30	33	4.41	- 0.19	1.47	3.1	9	14	5	8	n.	
Boligee.....	Greene.....	119	8	.....	.....	.....	.....	.....	.....	.....	4.16	.....	1.15	0.0	7	9	5	17	ne.	
Calera.....	Shelby.....	500	8	.....	.....	74	4	10	30	34	2.42	.....	1.25	0.0	9	17	3	11	nw.	
Camp Hill.....	Tallapoosa.....	738	8	42.4	.....	74	4	10	30	34	3.05	.....	1.65	1.5	4	2	24	5	.....	
Cedar Bluff.....	Cherokee.....	594	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Citronelle.....	Mobile.....	331	21	47.0	- 6.0	76	6	16	30	30	8.07	+ 4.32	2.08	0.0	12	18	6	7	nw.	
Clanton.....	Chilton.....	590	16	41.4 <sup>a</sup>	- 4.9	71 <sup>a</sup>	4	13 <sup>a</sup>	30	34	4.97	+ 0.59	1.36	0.0	10	10	1	20	n.	
Cordova.....	Walker.....	334	15	30.7 <sup>b</sup>	- 4.4	75 <sup>b</sup>	5	8	30	33	3.80	- 0.29	0.72	1.35	2.0	7	14	7	10	s.
Cullman.....	Cullinan.....	802	2	37.1	.....	75	4	8	30	33	4.83	.....	2.30	1.4	10	13	5	13	nw.	
Dadeville.....	Tallapoosa.....	760	4	.....	.....	78 <sup>b</sup>	4	17 <sup>b</sup>	30	32 <sup>b</sup>	6.61	+ 1.71	2.80	0.0	8	15	9	12	n.	
Daphne.....	Baldwin.....	18	48.9 <sup>b</sup>	- 4.1	78 <sup>b</sup>	4	17 <sup>b</sup>	30	32 <sup>b</sup>	5.96	+ 1.31	1.50	0.0	10	17	3	11	nw.		
Demopolis.....	Marengo.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Double Springs.....	Winston.....	200	25	42.3	- 6.1	70	2	13	30	35	4.08	- 0.52	1.80	0.0	11	15	7	9	nw.	
Eufaula.....	Barbour.....	285	25	46.3	- 3.5	82	5	14	30	36	6.42	+ 2.62	2.00	0.0	7	19	0	12	n.	
Evergreen.....	Fayette.....	359	359	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Fayette.....	Escambia.....	91	7	46.0	- 5.7	80	2	16	30	40	4.28	- 0.86	2.00	0.0	10	19	0	12	s.	
Flomaton.....	De Kalb.....	1,595	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Fort Deposit.....	Lowndes.....	520	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Gadsden.....	Etowah.....	621	15	39.7	- 4.7	70	4	12	30	31	5.04	- 0.03	1.56	1.8	8	11	4	16	nw.	
Goodwater.....	Coosa.....	826	23	43.6	- 0.9	80	1	10	30	31	4.25	+ 0.92	1.92	0.0	3	25	0	6	nw.	
Greensboro.....	Hale.....	220	30	42.4	- 6.3	68	2	16	30	29	4.82	- 0.09	0.88	0.0	10	16	3	12	n.	
Greenville.....	Butler.....	444	8	.....	.....	75 <sup>b</sup>	4	9 <sup>b</sup>	30	36 <sup>b</sup>	3.80	- 1.35	2.16	0.0	9	17	2	16	se.	
Hamilton.....	Marion.....	13	39.9 <sup>b</sup>	- 5.2	75 <sup>b</sup>	4	9 <sup>b</sup>	30	36 <sup>b</sup>	3.80	- 1.35	1.08	2.1	0	13	2	16	n.		
Highland Home.....	Crenshaw.....	17	44.4	- 5.0	75	4	14	30	34	5.71	+ 1.08	1.69	0.0	12	16	6	9	nw.		
Livingston.....	Sumter.....	160	25	39.3	- 7.4	68	4	13	30	42	4.45	- 0.01	1.63	0.0	5	22	9	9	n.	
Lock No 4.....	Talladega.....	510	12	39.4	- 4.4	70	4	10	30	34	4.71	- 0.05	1.40	1.0	11	15	0	16	nw.	
Lucy.....	Houston.....	4	44.2	.....	78	4	12	30	46	5.10	.....	1.64	0.0	11	13	8	10	se.		
Maple Grove.....	Cherokee.....	16	37.2	- 5.3	72	4	12	29	33	5.30	+ 0.10	1.80	2.0	6	9	13	9	n.		
Mentone.....	De Kalb.....	1,595	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Milestead.....	Mac-on.....	6	.....	.....	.....	.....	.....	.....	.....	.....	5.50	1.55	0.0	12	15	4	12	e.		
Mobile.....	Mobile.....	57	37	48.6	- 2.9	73	2	22	30	30	7.50	+ 2.93	3.42	0.0	14	15	11	5	nw.	
Montgomery.....	Montgomery.....	223	37	43.5	- 5.6	70	4	18	30	32	5.78	+ 1.28	1.75	0.0	13	12	6	13	nw.	
Newbern.....	Hale.....	16	42.4	- 5.0	74	4	13	30	32	5.34	+ 0.79	1.32	0.0	9	17	8	6	n		

## MONTHLY WEATHER REVIEW.

DECEMBER, 1909

TABLE 1.—Climatological data for December, 1909. District No. 2—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.				
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days.	.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<b>Florida—Cont'd.</b>																				
Cedar Keys.	Levy.	10	12	55.3	- 3.3	75	5	23	30	3.23	+ 0.11	2.00	0.0	6	23	5	nw.			
Clermont.	Lake.	105	16	58.6	- 2.5	82	5	25	30	0.84	- 1.71	0.30	0.0	5	15	16	n.			
DeFuniak Springs.	Walton.	193	14	50.2*	- 1.7	80*	1†	17*	30	3.7	7.91	+ 2.81	1.78	0.0	11	19	5	n.		
DeLand.	Volusia.	27	13	55.1	- 3.4	81	19	19	31	4.4	1.15	0.42	0.0	8	21	3	7.			
Eustis.	Lake.	56	17	56.7	- 3.2	82*	4	22	30	3.9	1.52	- 0.80	0.52	0.0	7	21	3	nw.		
Federal Point.	Putnam.	5	17	54.4	- 2.7	79	5	23	30	3.9	1.35	- 1.39	0.33	0.0	11	20	6	nw.		
Fenholloway.	Taylor.	75	3	49.8	- 3.3	79	5	17	31	4.2	2.75	0.70	0.0	5	14	9	3	nw.		
Fernandina.	Nassau.	10	12	52.5	- 4.0	75	6	19	30	3.1	2.90	- 0.45	1.20	0.0	12	14	9	nw.		
Flamingo.	Monroe.	4	7	57.7	- 3.3	80	3†	21	30	3.9	1.18	0.49	0.0	8	24	4	3	ne.		
Fort Meade.	Polk.	125	17	58.4	- 1.5	83	5	21	31	4.3	2.20	- 0.23	0.77	0.0	9	19	3	9	ne.	
Fort Myers.	Lee.	12	17	61.2	- 3.3	79	3	31	31	2.7	1.10	- 0.67	0.48	0.0	7	17	8	6	nw.	
Fort Pierce.	St. Lucie.	6	8	62.0	-	82	28	30	37	2.20	-	- 0.03	1.12	0.0	7	17	8	6	nw.	
Gainesville.	Alachua.	176	23	56.1	- 3.3	80	19	30												
Gramsire.	Orange.	175	13	56.1	- 3.3	80	3†	21	30	3.9	1.18	0.49	0.0	8	24	4	3	ne.		
Hilliard.	Nassau.	69	1	49.4	-	85	5	17	30	40	0.14	0.05	0.0	5	17	7	7	...		
Huntington.	Palm Beach.	56	12	52.4*	- 5.0	79*	5	19*	31	4.4	1.18	- 1.35	0.54	0.0	7	18	11	2	ne.	
Hypoluxo.	Citrus.	4	9	65.4	- 2.6	87	20	31	27	3.7	1.22	- 0.99	0.57	0.0	5	18	7	7	sw.	
Inverness.	Duval.	43	8	53.6	-	80	18	31	42	4.2	2.83	+ 0.40	0.86	0.0	7	11	0	10	7	nw.
Jacksonville.	Hamilton.	101	37	51.4	- 3.8	75	5	19	30	29	2.30	- 0.69	1.20	0.0	9	10	8	7	...	
Jasper.	Bradford.	152	11	49.1	- 2.8	82	5	20	30	53									ne.	
Johnstown.	Palm Beach.	125	14	51.6	- 3.1	80	5†	18	30	41	2.51	- 0.79	0.81	0.0	9	21	4	6	nw.	
Jupiter.	Monroe.	34	21	63.8	- 2.5	82	20	30	30	2.93	- 1.83	0.33	0.0	8	15	7	7	nw.		
Key West.	Brevard.	14	38	60.2	- 0.9	81	10	48	30	15	1.61	- 0.23	1.12	0.0	9	13	16	2	ne.	
Kissimee.	Osceola.	65	17	58.2	- 2.8	81	19	24	31	3.9	1.43	- 1.19	0.62	0.0	5	15	15	1	nw.	
Lake City.	Columbia.	210	20	51.1	- 5.1	80	5	16	30	43	3.65	+ 0.41	1.20	0.0	9	17	5	9	nw.	
Live Oak.	Suwanee.	109	8	50.2	-	79	6	17	30	38	3.24	+ 0.90	0.92	0.0	6	19	0	12	w.	
Macclenny.	Baker.	125	13	50.6*	- 4.0	79	5	18	30	42	3.02	- 0.18	1.20	0.0	9	14	5	12	nw.	
Madison.	Brevard.	200	6	48.4	-	79	5	18	30	41	3.60	- 0.43	0.96	0.0	12	14	6	12	ne.	
Malabar.	Brevard.	24	8	60.0*	-	84*	3	24*	31	39	1.38	-	0.38	0.0	8	13	12	6	n.	
Manatee.	Manatee.	8	17	56.9	- 4.9	80	3	29	31	36	2.44	+ 0.07	0.75	0.0	7	13	12	6	n.	
Marianna.	Jackson.	80	9	-																
Merritt's Island.	Brevard.	20	30	59.3	- 3.9	79	3	28	30	30	1.03	- 1.49	0.66	0.0	6	20	4	7	ne.	
Miami.	Dade.	5	13	67.0	- 1.7	85	19	33	30	32	1.20	- 1.03	1.20	0.0	1	25	6	0	nw.	
Middleburg.	Clay.	10	8	50.8	-	79*	6	18*	30	41	2.05	-	1.35	0.0	3	20	6	5	n.	
Molino.	Escambia.	49	8	47.8	-	81	3	16	30	42	9.81	-	4.83	0.0	5	17	6	8	nw.	
Monticello.	Jefferson.	207	4	50.4	-	76	5	18	30	34	4.00	-	1.34	0.0	7	21	4	6	ne.	
Mt. Pleasant.	Gadsden.	260	5	57.6*	-															
Newport.	Wakulla.	8	49.6	- 4.2	77	1	18	31	47	6.19	+ 1.21	1.42	0.0	5					nw.	
New Smyrna.	Volusia.	21	57.2	- 2.9	81	7	25	30	47	1.29	- 1.30	0.64	0.0	6	21	5	5	n.		
Ocala.	Marion.	98	22	55.4	- 2.6	82	5†	19	31	40	1.97	- 0.40	0.69	0.0	6	20	6	5	w.	
Orange City.	Volusia.	39	19	-																
Orlando.	Orange.	111	17	57.8	- 2.6	81	5	21	31	43	0.67	- 1.49	0.25	0.0	5	17	6	8	nw.	
Pensacola.	Escambia.	149	31	50.2	- 3.7	74	2	21	30	30	8.55	+ 4.33	2.76	0.0	16	15	7	9	n.	
Plant City.	Hillsboro.	121	17	56.5*	- 4.3	80	19	22	31	43	1.62	- 0.68	0.70	0.0	7	20	0	11	n.	
Rockledge.	Brevard.	28	1	59.0	-	80	3†	29	31	32	0.42	-	0.26	0.0	2	21	4	6	n.	
Rockwell.	Marion.	10	10	-																
St. Andrew.	Huntington.	14	14	49.8	- 3.2	75	5†	20	30	34	7.07	+ 1.80	1.85	0.0	11	23	4	4	n.	
St. Augustine.	St. Johns.	10	59	54.0	- 3.6	79	4	19	30	37	1.26	- 1.25	0.38	0.0	7	14	8	9	ne.	
Sand Key.	Monroe.	46	6	-																
St. Leo.	Pasco.	140	14	56.8	- 3.0	80	4†	22	31	40	2.60	- 0.10	0.77	0.0	10	16	8	7	w.	
Satsuma Heights.	Putnam.	98	1	51.8	-	77	19*	31	37	3.38	-	0.35	0.0	7	15	13	3	3	n.	
Switzerland.	St. Johns.	10	13	52.9*	- 2.3	78*	5†	21*	30	37	1.65	- 1.30	0.65	0.0	6					
Tallahassee.	Leon.	192	24	47.8	- 5.2	72	5	18	30	35	4.65	+ 0.08	1.40	0.0	8	18	5	8	n.	
Tampa.	Hillsboro.	79	19	57.6	- 1.9	80	5	26	31	29	1.06	- 0.98	0.36	0.0	9	15	9	7	nw.	
Tarpon Springs.	Hillsboro.	20	16	57.8	- 2.2	82	5	23	31	35	2.26	- 0.02	0.57	0.0	7	18	8	5	n.	
Titusville.	Brevard.	6	17	60.2*	- 1.5	88*	19	24	30	44	0.65	- 2.33	0.24	0.0	7	8	15	8	w.	
Waupus.	Washington.	250	12	50.0*	- 2.4	73*	7†	16	30	45	7.45	+ 2.37	2.08	0.0	10	13	9	9	n.	
<b>Mississippi.</b>																				
Aberdeen.	Monroe.	210	21	38.2	- 4.6	75	4	13	30	38	4.89	- 0.22	1.28	3.0	9	18	3	10	n.	
Agricultural College.	Oktibbeha.	424	19	39.9	- 7.1	73*	12*	24	30	47	4.72	- 0.20	1.55	0.0	8	14	12	7	n.	
Bay St. Louis.	Hancock.	28	16	48.7	- 3.6	75	2	24	30	28	7.32	+ 2.16	2.18	0.0	14	12	5	11	nw.	
Biloxi.	Harrison.	24	18	49.4*	- 2.7	73*	3†	23*	30	29	5.32	+ 0.15	3.06	0.0	13	14	8	9	n.	
Booneville.	Prentiss.	504	15	36.2	- 8.4	71	4	13	21	31	5.14	+ 0.05	1.04	6.2	11	14	1	11	n.	
Brookhaven.	Lincoln.	500	21	42.4	- 7.9	78	4	10	19	45	4.63	- 0.38	1.04	0.0	10	19	1	11	n.	
Columbia.	Maroon.	100	5	-							5.64	-	1.78	0.0	10	15	4	12	nw.	
Columbus.	Lowndes.	250	21	-							12	-	6.10	+ 1.02	1.75	2.4	11	16	3	12
Crystal Springs.	Copiah.	488	17	41.9	- 6.5	77	5	17	30	36	3.38	-	2.15	1.10	0.0	8	19	8	4	...
Edinburg.	Leake.	1	41.6	-		76	4	13	30	39	4.66	-	1.35	0.0	0	12	16	4	11	n.
Enterprise.	Clarke.	248	4	-							5.90	-	1.10	0.0	9	13	2	16	n.	
Fulton.	Itawamba.										4.78	-	1.50	0.0	9	14	2	15	n.	
Hattiesburg.	Forest.	154	16	46.7	- 4.4	80	2†	18	30	42	6.40	+ 1.88	2.60	0.0	9	12	4	15	n.	
Haselhurst.	Copiah.	460	19	41.6	-	78	4	16	30	45	4.53	-	1.98	0.0	8	17	3	11	n.	
Jackson.	Hinds.	280	22	43.4	- 4.1	80	3	15	30	43	3.45	-								

TABLE 2.—*Daily precipitation for December, 1909. District No. 2, South Atlantic and east Gulf States.*

## MONTHLY WEATHER REVIEW.

DECEMBER, 1909

TABLE 2.—*Daily precipitation for December, 1909. District No. 2—Continued.*

Stations.	River basins.	Day of month.																											Total.				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
<i>South Carolina—Cont'd.</i>																																	
Cheraw (2)	Pedee.																																
Clarks Hill.	Savannah.	.04																															4.90
Clemson College.	do.	.03	.03																													2.06	
Columbia.	Congaree.	.16																														2.83	
Conway    .	Waccamaw.	.01																														1.84	
Darlington.	Pedee.																															1.66	
Dillon.	Little Pedee.																															4.50	
Effingham    .	Lynches.	T.																														2.60	
Ferguson    .	Santee.	T.																														2.78	
Florence    .	Pedee.																															1.88	
Georgetown.	Coast.	T.																														4.60	
Greenville    .	Saluda.	.08																														3.35	
Greenwood    .	do.																															3.11	
Health Springs.	Wateree.	.30																														2.03	
Jacksonboro.	Combahae.	T.																														2.20	
Kingtree (1)    .	Black.	.05																														2.20	
Kingtree (2)    .	do.																																
Liberty.	Savannah.	.04	.08																													5.07	
Little Mountain.	Saluda.	.20																														2.39	
Newberry.	do.	.01																														2.53	
Pelzer    .	Cooper.	.04																														3.44	
Pinopolis.	Edisto.	.30																														2.30	
St. George    .	Santee.																															2.83	
St. Matthews    .	Saluda.																															3.01	
Smith Mills    .	Broad.	.07																														2.79	
Society Hill.	Pedee.	.33																														4.13	
Spartanburg    .	Broad.	.12																														2.18	
Summerville.	Ashley.	T.	T.																													3.23	
Trenton.	Edisto.	T.	.29																													2.71	
Trial.	Santee.		.04																													2.66	
Walhalla.	Savannah.	.15																														2.24	
Walterboro.	Ashepoo.	T.	T.																													4.86	
Winnsboro.	Broad.																															2.82	
Wintrop College.	Catawba.	T.	.02																													2.60	
Yemassee    .	Combahae.	T.	.02																													2.67	
<i>Georgia.</i>																																	
Abbeville    .	Ocmulgee.	*	.66	.20																												3.61	
Adairsville.	Coosa.	T.	.05	*	.02	.52																									4.89		
Albany    .	Flint.	*	.06	.05																											3.67		
Allapaha    .	Allapaha.	*	.	.24																												2.41	
Americus    .	Flint.	*	.07																													3.42	
Athens    .	Oconee.	.20																														3.51	
Atlanta.	Chattahoochee.	.02																														1.98	
Augusta.	Savannah.	.02																														6.06	
Bainbridge    .	Flint.	.30	.02																													3.02	
Barneville.	do.																															2.81	
Blakely.	Chattahoochee.	.17																														3.71	
Brunswick.	Altamaha.																																
Butler    .	Flint.																															2.85	
Camak    .	Savannah.																															2.35	
Canton.	Coosa.	*	.31																													3.48	
Carrollton    .	Savannah.																															7.54	
Clayton.	Chattahoochee.	.11																															
Columbus    .	Omulgee.	*	.60	.30																												3.64	
Covington    .	Chattahoochee.																															4.74	
Cuthbert.	do.																															5.25	
Dahlonega.	do.	.07	.05																													6.79	
Diamond.	Tennessee.	.01	.10																														
Douglas.	Satilla.																															3.44	
Dublin    .	Oconee.	T.																														2.41	
Dudley.	do.	T.																														3.37	
Eastman    .	Omulgee.	*	.17	T.																											2.37		
Elton.	Oconee.	.07																														2.91	
Elberton.	Savannah.	.03																														2.65	
Experiment.	Chattahoochee.																																
Fitzgerald.	Allapaha.																																
Forsyth.	Omulgee.	.30	.47																													3.20	
Gainesville    .	Chattahoochee.	.05																															

TABLE 2.—*Daily precipitation for December, 1909. District No. 2—Continued.*

TABLE 2.—*Daily precipitation for December, 1909. District No. 2—Continued.*

\*Precipitation included in that of the next measurement.

Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

<sup>†</sup> Also on other dates.

**Data are from standard instruments not supplied by the U. S. Weather Bureau.**  
**Instruments are read in the morning; the maximum temperature then read is ab-**

Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.  
Estimated by observer.

Estimated by observer.  
Precipitation for the 24

T. Precipitation is less than 0.01 inch rain or melted snow.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 3.—Maximum and minimum temperatures at selected stations, December, 1909. District No. 2, South Atlantic and east Gulf States.

Date.	Virginia.										North Carolina.												Charleston, S. C.					
	Lynchburg.		Norfolk.		Richmond.		Saxe.		Charlotte.		Eagleton.			Fayetteville.			Hatteras.			Newbern, §§.			Raleigh.			Reidsville.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	53	23	48	36	51	31	53	16	57	31	52	23	57	26	51	42	55	27	54	32	47	28	51	26	55	31	57	40
2...	55	24	46	37	52	34	53	17	52	38	53	23	52	24	54	42	59	24	59	32	68	28	51	29	59	35	59	44
3...	51	30	43	37	48	30	53	25	60	48	50	27	57	43	52	41	54	38	55	39	55	38	56	41	52	43	65	53
4...	66	36	62	39	64	37	63	25	69	43	63	28	69	32	55	43	67	32	67	42	70	35	64	34	65	40	64	49
5...	66	34	63	45	63	39	69	30	68	41	63	31	74	33	60	44	65	34	69	41	71	41	65	34	73	40	68	49
6...	62	33	58	44	63	41	65	38	64	45	65	43	72	44	62	47	71	42	67	50	67	45	66	36	71	53	68	60
7...	48	32	64	41	60	37	61	26	62	42	67	33	72	45	63	45	73	40	68	45	60	36	61	41	72	55	60	59
8...	43	32	50	37	46	32	56	26	42	33	60	32	68	32	62	45	54	36	47	33	52	36	55	30	64	41	60	41
9...	34	23	38	30	36	25	39	25	41	26	42	32	49	33	48	37	51	34	41	27	41	25	41	30	53	33	55	39
10...	36	19	36	24	39	19	40	13	44	22	38	16	44	17	40	32	42	21	39	21	44	18	40	20	44	25	48	32
11...	37	24	40	29	36	24	41	16	51	32	43	18	52	20	47	35	54	20	47	21	52	25	48	25	52	30	57	38
12...	38	30	48	37	43	33	41	26	47	37	52	24	52	32	62	39	62	27	46	31	44	33	55	37	65	54	54	
13...	45	32	64	46	62	37	51	34	60	36	64	43	64	48	69	59	65	44	64	41	43	32	55	35	68	48	68	
14...	50	35	53	40	53	36	51	31	51	32	56	36	58	32	60	44	58	34	54	33	52	30	54	31	56	36	58	36
15...	52	32	56	38	53	37	58	36	58	34	68	33	60	46	63	33	58	36	60	31	58	32	66	39	66	44		
16...	40	25	43	33	41	30	44	15	50	28	49	23	54	20	50	37	55	22	52	30	45	27	49	26	55	35	57	37
17...	43	20	50	29	49	24	58	15	58	23	50	23	54	20	50	37	55	22	52	30	45	27	45	31	57	32	58	
18...	39	29	43	37	40	30	46	16	44	33	48	30	51	32	51	38	53	25	48	32	43	31	45	30	58	38	61	42
19...	32	23	37	30	30	23	35	16	37	34	37	31	40	33	38	36	38	30	36	32	38	27	40	32	39	34	45	40
20...	36	19	32	28	30	22	34	14	35	33	35	27	39	32	38	34	37	30	37	32	35	29	38	32	35	32	40	36
21...	40	17	39	28	36	19	42	10	40	28	38	17	43	21	43	32	45	20	42	25	46	29	41	29	45	27	48	33
22...	33	23	39	28	37	24	39	20	41	27	42	22	45	23	44	33	46	22	40	25	40	29	42	23	45	31	51	32
23...	40	25	42	24	44	24	44	18	42	21	45	24	44	26	43	30	46	23	43	23	41	19	44	21	45	25	46	30
24...	46	28	40	28	44	23	49	19	47	28	43	20	54	23	45	33	57	23	48	26	53	31	49	28	50	32	58	38
25...	38	23	47	33	57	30	39	30	41	29	46	30	52	33	60	36	57	31	45	34	59	32	43	35	58	36	58	38
Mns	42.8	25.7	45.3	32.2	43.9	27.9	47.9 <sup>b</sup>	21.7 <sup>b</sup>	47.5	30.9	48.0	26.9	53.0	29.0	50.5	37.6	53.1	28.4	48.2	30.5	48.0	27.5	47.5	28.1	53.2	34.3	55.4	39.0

Date.	South Carolina.										Georgia.												Savannah.									
	Columbia.		Conway, §§.		Georgetown.		Greenville, §§.		Newberry.		Society Hill.			Trial.			Adairsville, §§.			Albany, §§.			Atlanta.			Augusta.			Dahlonega.		Macon.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1...	58	35	68	25	57	33	68	30	57	28	54	27	60	23	59	32	77	40	59	39	61	32	54	35	63	30	58	42				
2...	57	32	62	25	59	32	55	29	57	29	54	43	58	27	59	34	76	54	54	35	63	46	56	37	64	34	59	49				
3...	65	46	65	45	65	49	71	36	64	40	53	32	78	42	66	34	78	54	65	46	66	48	63	38	64	44	66	54				
4...	70	39	68	35	67	42	63	36	68	38	62	37	70	38	66	39	78	52	71	49	69	43	70	38	67	44	68	46				
5...	72	39	74	37	71	45	67	37	72	38	67	37	75	38	66	37	80	53	62	50	71	41	64	42	70	43	72	51				
6...	71	51	74	47	71	54	68	38	68	45	67	57	75	51	64	37	80	50	62	42	71	50	60	39	77	52	72	38				
7...	70	44	74	50	57	67	56	36	64	55	70	36	57	64	48	38	74	49	62	32	70	43	58	41	65	39	74	54				
8...	47	34	55	38	56	41	49	31	48	31	52	37	63	34	39	29	59	34	39	28	48	34	43	27	46	34	56	38				
9...	48	30	56	39	56	42	58	29	47	32	48	23	58	35	39	21	54	33	32	24	46	29	53	37	49	29	53	37				
10...	47	23	47	23	50	27	58	21	46	20	44	24	49	23	42	20	60	26	49	19	47	25	46	20	48	25	50	38				
11...	56	27	56	22	54	30	55	23	53	24	51	38	60	21	51	22	65	33	49	38	56	27	59	26	56	30	59	38				
12...	59	42	66	34	63	42	44	29	62	49	63	50	62	44	52	30	70	49	50	43	64	46	57	49	66	50	60	50				
13...	67	38	68	50	68	59	58	36	67	46	64	34	67	50	46	44	61	56	56	32	67	50	57	34	63	46	55	46				
14...	53	33	57	35	56	43	58	29	55	31	51	36	57	31	51	26	64	32	53	33	46	36	54	31	57	38						
15...	61	43	57	34	66	43	67	29	61	39	60	32	57	35	51	30	68	30	55</													

## MONTHLY WEATHER REVIEW.

DECEMBER, 1909

TABLE 3.—*Maximum and minimum temperatures at selected stations, December, 1909.* District No. 2—Continued.

Date.	Florida.														Mississippi.														Meridian.															
	Jacksonville.				Jupiter.				Key West.				Miami.				Orlando.				Pensacola.				Tallahassee.				Tampa.				Columbus.				Hattiesburg.				Jackson.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
1.	69	48	76	67	74	64	79	64	76	45	68	58	70	45	75	53	65	39	79	45	66	54	62	50	66	48	71	54	75	50	80	54	74	54	71	48								
2.	68	50	74	58	78	64	80	63	77	47	74	60	67	46	71	58	75	50	80	54	74	54	62	50	66	48	71	54	75	50	80	54	74	54	71	48								
3.	65	53	81	67	76	68	84	59	80	61	69	55	69	53	75	58	70	38	75	39	80	37	72	41	73	41	75	39	80	37	72	41	73	41	75	39								
4.	69	50	80	64	78	65	82	62	77	55	69	56	71	46	75	51	70	38	79	40	80	40	73	45	75	45	77	40	80	40	73	45	75	45	77	40								
5.	75	55	78	64	80	63	79	66	81	51	72	63	72	48	80	59	62	40	80	42	66	49	67	45	62	50	66	49	67	45	62	50	66	49	67	45								
6.	75	60	79	62	78	69	79	58	80	51	70	60	70	54	78	60	61	35	79	48	59	41	68	41	66	41	68	41	66	41	68	41	66	41	68	41								
7.	73	60	80	55	80	67	82	65	80	53	69	39	67	63	74	62	43	38	80	44	63	38	68	32	71	38	68	32	71	38	68	32	71	38	68	32								
8.	62	43	80	63	78	67	82	61	75	60	53	34	65	36	71	56	40	28	56	35	40	31	39	30	56	35	40	31	39	30	56	35	40	31	39	30								
9.	58	40	67	51	75	65	75	62	68	50	53	32	53	34	63	46	39	20	40	27	43	21	41	23	43	21	41	23	43	21	41	23	43	21	41	23								
10.	53	31	70	46	73	63	75	50	65	35	55	36	54	29	64	37	45	20	53	24	60	22	54	24	60	22	54	24	60	22	54	24	60	22	54	24								
11.	67	43	72	64	76	63	74	61	73	39	67	51	65	30	72	44	53	20	64	40	65	49	56	38	64	49	56	38	64	49	56	38	64	49	56	38								
12.	73	62	74	68	78	68	77	62	77	56	68	62	71	41	76	57	.....	45	63	44	60	39	61	38	63	44	60	39	61	38	63	44	60	39	61	38								
13.	69	48	70	65	80	69	78	64	76	53	62	41	60	56	71	57	.....	35	60	29	49	27	44	32	49	27	44	32	49	27	44	32	49	27	44	32								
14.	61	39	68	53	73	66	91	70	65	43	63	45	60	33	63	47	.....	27	57	32	69	30	66	31	59	35	55	34	59	35	55	34	59	35	55									
15.	70	43	75	49	72	66	74	59	70	33	67	44	70	35	70	43	.....	31	60	32	59	31	59	35	55	34	55	34	55	34	55	34	55	34	55									
16.	58	41	70	53	74	67	73	59	67	43	50	34	52	35	65	47	.....	22	62	26	55	24	49	26	55	24	49	26	55	24	49	26	55	24	49	26								
17.	62	37	75	54	76	65	76	55	68	34	54	39	56	34	68	41	.....	24	52	27	55	25	47	25	55	25	47	25	55	25	47	25	55	25	47	25								
18.	60	43	76	62	81	67	79	63	70	49	53	44	55	36	68	53	.....	27	54	49	55	25	45	28	55	25	45	28	55	25	45	28	55	25	45	28								
19.	51	47	82	68	79	71	85	65	80	64	44	39	48	42	74	64	.....	24	60	32	29	25	45	29	55	25	45	29	55	25	45	29	55	25	45	29								
20.	51	45	82	66	80	69	83	65	76	58	40	31	46	44	07	56	.....	21	42	28	34	23	49	28	34	23	49	28	34	23	49	28	34	23	49	28								
21.	54	42	75	64	74	69	83	66	60	52	53	28	51	31	59	53	.....	17	38	20	41	18	39	19	41	18	39	19	41	18	39	19	41	18	39	19								
22.	55	36	67	52	70	64	64	50	45	51	33	50	32	59	49	.....	17	47	26	46	24	48	25	48	24	48	25	48	24	48	25	48	24	48	25									
23.	48	32	66	44	68	60	72	48	63	37	56	32	49	30	60	39	.....	20	42	27	44	24	43	24	43	24	43	24	43	24	43	24	43	24	43	24								
24.	58	33	71	48	72	60	71	48	70	39	65	42	52	32	68	41	.....	21	52	40	52	37	54	36	54	37	54	36	54	37	54	36	54	37	54	36								
25.	71	42	75	54	75	66	80	52	73	44	64	43	54	35	67	51	.....	34	62	42	50	35	55	42	50	35	55	42	50	35	55	42	50	35	55	42								
26.	50	35	61	43	67	60	68	54	60	41	50	33	43	38	54	41	.....	24	52	28	51	27	45	28	51	27	45	28	51	27	45	28	51	27	45	28								
27.	62	33	67	39	68	55	70	38	70	27	61	42	50	28	65	36	.....	25	52	32	62	27	58	32	62	27	58	32	62	27	58	32	62	27	58	32								
28.	58	42	72	50	74	61	80	50	70	50	52	38	63	32	62	49	.....	23	65	31	56	25	51	28	56	25	51	28	56	25	51	28	56	25	51	28								
29.	52	26	66	42	69	62	70	47	63	32	44	28	44	35	58	35	.....	23	56	33	58	27	42	21	58	27	42	21	58	27	42	21	58	27	42									
30.	39	19	51	30	63	43	64	33	62	25	41	21	36	18	44	27	.....	12	60	18	47	15	39	16	47	15	39	16	47	15	39	16	47	15	39	16								
31.	50	27	59	32	58	49	63	36	58	21	53	35	53	20	54	26	.....	13	50	30	61	13	53	30	61	13	53	30	61	13	53	30	61	13	53	30								
Means.	60.8	42.1	72.5	55.1	74.1	64.2	76.8	57.1	70.6	44.9	58.5	41.8	57.7	37.8	66.9	48.3	.....	27.5	59.6	33.8	55.0	31.7	52.6	31.3	52.6	31.7	52.6	31.3	52.6	31.7	52.6	31.3	52.6	31.7	52.6	31.3	52.6	31.7	52.6					